

REMARKS

Claims 1-6 are pending in the application. Claims 1-6 stand rejected
Claims 1-6 have been amended. No new matter has been added.

The examiner has noted, without objection, the possibility of informalities in the abstract.

Applicant, through his attorney, wishes to thank the examiner for his observation, and has made appropriate correction and amendments to the abstract.

Having made the correction indicated, applicant submits that the reason for the examiner's note has been overcome. Applicant respectfully requests entry of the amended specification language.

The examiner has noted, without objection, that the application is informal in the arrangement of the specification.

Applicant, through his attorney, wishes to thank the examiner for his observation. But, respectfully disagrees with the examiner. More specifically, applicant submits that the MPEP suggests a preferred form of the application and is not the only form. Accordingly, applicant submits that the substance of the written description is clearly and fully conveyed to one skilled the art the applicant considers to be the invention.

Accordingly, applicant elects at this time not to amend the written description further.

The examiner has objected to claim 6 because the "scope must be interpreted when the symbols making up the claim limitation are not defined. The symbol '8' (line 2) should be defined in the claim." Also, claims 4 and 5 contain informalities.

Applicant, through his attorney, wishes to thank the examiner for his observation regarding the errors in claim construction and has amended the claims to more clearly state the invention.

Having made the amendments to the claims, applicant submits that the examiner's objection has been overcome. Applicant respectfully requests entry of the amended claim language and withdrawal of the objection.

The examiner has noted that the "form of the claims does not follow Office practice" in that each claim must be the object of a sentence.

However, as the examiner notes that there is no set statutory form of the claims, applicant respectfully submits that the form of the claims is sufficient for one skilled in the art to understand the invention through the teachings of the instant application. Accordingly, applicant elects not to amend the application at this time.

Claims 1-3 stand rejected pursuant to 35 USC §103(a) as being unpatentable over USP No. 5,799,065 to Junqua in view of USP No. 5,392,363 to Fujisaki. It is the examiner's position that with regard to independent claim 1, "Junqua and Fujisaki make a speech recognition embodiment recognizable as a whole to one versed in the art ... Junqua describes a letter-sequence estimating stage ... a post-processing stage ... However, Junqua does not explicitly describe the A* algorithm. Fujisaki describes an embodiment of recognition of letters of the alphabet using a tree structure corresponding to paths through a Viterbi lattice. Fujisaki also describes ... use [of] the A* algorithm... It would be obvious ... to include the A* algorithm with Junqua's DP because Fujisaki shows its suitability in that role and would bring the known A* search efficiencies to Junqua's beam search." The reasons for rejecting claims 2 and 3 are also based on the Junqua reference.

Claim 4 stands rejected pursuant to 35 USC §103(a) as being unpatentable over USP No. 5,799,065 to Junqua in view of USP No. 5,392,363 to Fujisaki and USP No. 4,907,278 to Cecinati. It is the examiner's position that "neither Fujisaki nor Junqua explicitly describes first and second ICs ... Cecinati also describes: a first processing stage ... [and] a second processing stage... It would have been obvious ... to include Cecinati's concept of faster processing by separating the different functions of Junqua's and Fujiski's recognition processing onto a first and second IC."

Claims 5/2/1, 5/3/1 and 5/1 stand rejected pursuant to 35 USC §103(a) as being unpatentable over Junqua and Fujisaki in view of USP No. 5,940,793 to Attwater. It is the examiner's position that “[n]either Junqua nor Fujisaki explicitly describes inputting and recognizing a whole word. [However], Attwater describes an embodiment for spelled word recognition of database words (names) ... It would have been obvious ... to include both word and letter inputs.”

Claims 6/5/2/1, 6/5/3/1 and 6/5/1 stand rejected pursuant to 35 USC §103(a) as being unpatentable over Junqua, in view of Fujisaki, Attwater and USP No. 5,177,685 to Davis. It is the examiner's position that “Attwater describes a speech controlled electronic device ... however, none of Junqua, Fujisaki or Attwater describes a more particular navigation system for motorcars. Davis describes a navigation system for automobiles with error-prone speech recognition.”

Applicant respectfully disagrees with, and explicitly traverses the examiner's reasons for rejecting the claims. A claimed invention is *prima facie* obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations.

With regard to the Junqua reference, this reference teaches a call routing device employing continuous speech that uses multiple passes. Junqua further teaches that the estimates of the inputted letters are organized in a tree structure that propagates the N-best hypotheses between the passes. In this tree-structure, only those letter combinations formed based on the preceding letter is propagated. (See, for example, col. 8, lines 58-60, which state, “N-best algorithm selects the best starting time for a letter based on the preceding letter and not on letters before the preceding letter.”) Junqua fails to disclose that the letter combinations are organized in a grid (see Fig. 2) that includes all the letters uttered and that the grid is converted into a tree structure. Hence, as shown in Fig. 3, each node of the tree includes a plurality of estimates, i.e., r₁ and not a single

element as shown in Junqua. Junqua fails to teach “a grid structure . . . whose node points are provided of the assignment of accumulated probability values is converted into a tree structure,” as is claimed. Junqua further provides no motivation to develop a grid to accumulate probability values as is claimed.

Fujisaki teaches a handwritten word recognition device that teaches the use of the A* algorithm, which is referred to in the claims. Assuming that the A* algorithm is well-known in the art, the examiner has failed to show what teachings in Fujisaki would provide the motivation to incorporate the A* algorithm, as applied handwritten word recognition, to the speech recognition of Junqua.

Even if there were some suggestion of combining the teaching of Junqua and Fujisaki, the combined device would fail to include all the elements recited in claim 1. As noted Junqua fails to recite the accumulation of probabilities in a grid that is converted to a tree structure and Fujisaki fails to teach such a step.

Accordingly, the combination of Junqua and Fujisaki cannot render the present invention, as recited in claim 1, obvious because there is no suggestion or teaching to combine the devices and even if it were possible to combine the two teachings the combined device would not include all the elements claimed.

Applicant submits that the examiner’s rejection of claim 1 has been overcome and respectfully requests withdrawal of the rejection and allowance of the claim.

With regard to dependent claims 2 and 3, these claims depend from claim 1, which has been shown to be allowable. Accordingly, claims 2 and 3 are also allowable by virtue of their dependence upon an allowable base claim.

With regard to claim 4, this claim depends from claim 1, and even if the teachings of Cecinati were incorporated into the teachings of Junqua and Fujisaki as suggested by the examiner, the combined invention would not include all the elements recited. Cecinati teaches a two-level hierarchical system speech recognition and fails to discuss the accumulation of probabilities in a grid that is converted to a tree structure, as is claimed. Accordingly, the combination of Junqua, Fujisaki and Cecinati cannot render

the present invention, as recited in claim 4, obvious as the combined device would not include all the elements claimed.

With regard to claims 5 and 6, the examiner has rejected these claims based on essentially the same Junqua and Fujisaki references recited in rejecting claim 1. Applicant respectfully disagrees with the examiner that claims 5 and 6 are obvious in view of the cited reference. However, the applicant has amended these claims to remove the multiple dependencies and to more clearly state the invention. More specifically, applicant has amended claims 5 and 6, to clearly the letter recognition process as recited in claim 1.

As stated previously, claim 1 is not obvious in view of Junqua and Fujisaki as neither Junqua nor Fujisaki teaches or suggests a grid structure whose node points are provided the assignment to accumulated probabilities that is converted into a tree structure as is claimed. Further neither the Attwater nor the Davis references teach or suggest such a claimed element.

Accordingly, claims 5 and 6 are not obvious in view of Junqua, Fujisaki, Attwater and Davis, because any device resulting from the combination of these references would not include all the elements of the invention.

Having shown that the device suggested by the examiner does not include all the elements of the instant invention claimed, applicant submits that the examiner's rejections of the claims has been overcome and can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

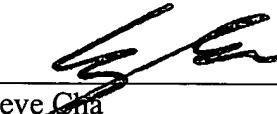
Having addressed the examiner's objections and rejections under 35 USC § 103 applicant submits that for the amendments and remarks made herein the reasons for the examiner's rejections have been overcome and can no longer be sustained. Applicant respectfully requests reconsideration and withdrawal of the rejections and that a Notice of Allowance be issued.

Should any unresolved issues remain that the examiner believes may be resolved via a telephone call, the examiner is invited to call Applicant's attorney at the telephone number below.

No fees are believed necessary for the filing of this Amendment and Response. However, the Commissioner for Patents is hereby authorized to charge any additional fees, including fees for extensions of time or credit any excess payment that may be associated with this communication to the deposit account on file.

Respectfully submitted,

Daniel J. Piotrowski
Registration No. 42,079



Date: June 24, 2004

By: Steve Cha
Attorney for Applicant
Registration No. 44,069

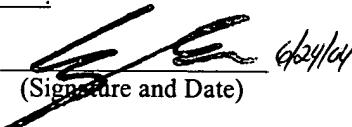
Mail all correspondence to:

Daniel J. Piotrowski, Esq.
US PHILIPS CORPORATION
P.O. Box 3001
Briarcliff Manor, NY 10510-8001
Phone: (914) 333-9624
Fax: (914) 332-0615

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Steve Cha, Reg. No. 44,069
(Name of Registered Rep.)


(Signature and Date)